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APPLICATION NUMBER: *60/531,732*
FILING DATE: *December 22, 2003*
RELATED PCT APPLICATION NUMBER: *PCT/US04/43690*

Certified by

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17157 U.S.PTO
122203

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60/531732
122203

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PTO/SB/16 (02-01)
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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

Express Mail Label No. EV395988815US

INVENTOR(S)

Given Name (first and middle [if any])	Family Name or Surname	Residence (City and either State or Foreign Country)
Mark Alan	Schultz	Carmel, Indiana
Matthew Robert	Lamb	Westfield, Indiana

☒ *Additional inventors are being named on the 1 separately numbered sheets attached hereto*

TITLE OF THE INVENTION (280 characters max)

MOVEABLE LIGHT MASKING FOR SEGMENTED DISPLAYS

CORRESPONDENCE ADDRESS

Direct all correspondence to:

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☒ Firm *or* Individual Name	JOSEPH S. TRIPOLI, THOMSON LICENSING INC.				
Address	PATENT OPERATIONS.				
Address	P. O. BOX 5312				
City	PRINCETON	State	NJ	ZIP	08543-5312
Country	USA	Telephone	609-734-6834	Fax	609-734-6888

ENCLOSED APPLICATION PARTS *(check all that apply)*

☒ Specification *Number of Pages* [5] ☐ CD(s), Number [ ]

☒ Drawing(s) *Number of Sheets* [Inclusive] ☐ Other (specify) [ ]

☐ Application Data Sheet. See 37 CFR 1.76

METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT *(check one)*

☐ Applicant claims small entity status. See 37 CFR 1.27.

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FILING FEE AMOUNT ($)

☒ The Commissioner is hereby authorized to charge filing fees or credit any overpayment to Deposit Account Number: 07-0832 — 160

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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.

☐ Yes, the name of the U.S. Government agency and the Government contract number are: ____.

Respectfully submitted

SIGNATURE [Patricia A. Verlangieri] Date 12/22/03

TYPED or PRINTED NAME Patricia A. Verlangieri REGISTRATION NO. *(if appropriate)* 42,201

TELEPHONE 609 734-6867 Docket Number: PU030327

USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT

This collection of information is required by 37 CFR 1.51. The information is used by the public to file (and by the PTO to process) a provisional application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 8 hours to complete, including gathering, preparing, and submitting the complete provisional application to the PTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, D.C., 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, D.C. 20231.

PROVISIONAL APPLICATION COVER SHEET

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Docket Number	PU030327	Type a plus sign (+) inside this box →	+

INVENTOR(S)/APPLICANT(S)

Given Name (first and middle [if any])	Family or Surname	Residence (City and either State or Foreign Country)
Charles Bryan	Hunt	Westfield, Indiana

Number 1 of 1

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1. Descriptive Invention Title:	Moveable Light Masking for Segmented Displays

2. Inventor (s) Information (The first named inventor should be the primary contact for Patent Operations)					
First Name	Mark	Middle Name	Alan	Last Name	Schultz
First Name	Matthew	Middle Name	Robert	Last Name	Lamb
First Name	Charles	Middle Name	Bryan	Last Name	Hunt

Brief summary of the invention

This is a mechanical device to block undesired light from a projector in a multi-projector display while still allowing individual projectors to move freely during alignment.

Background

This device blocks undesired light from surfacing above the lens while still allowing the lens and projector to be moved around for alignment.

Loose cloth masking and boards were used in the past but both had problems. Most cloth is flammable which is a concern next to +100W lamps and moveable masking usually means that the cloth has slack that sags toward the lamps creating the fire hazard. When stiff material is used, the alignment process requires that holes be cut and repaired based on the latest alignment which is labor intensive and sometimes torques the lenses. This invention fixes both of these problems.

Description of the Invention

The main idea is to use a solid platform similar to a table around the exit pupil of the projector lenses. A hole is cut large enough around each lens to accommodate the alignment of each projector in the segmented display. A stiff masking that resembles an inverted top-hat with the top of the hat removed is then placed over each lens to mask the undesired light. This top-hat has a tube that is slightly larger in diameter than the outside dimensions of the lens which fits over the lens. The larger rectangle of material, analogous to the brim of the hat, must be larger than the opening in the table for each projector and has the tube inserted at 90 degrees to complete the adjustable masking. This masking design is a cylinder that is passed through a plane with the cylinder being the size of the lens.

This technique allows a very adjustable platform, eliminates the fire hazards that cloth presents, provides a very effective light masking, and provides a means to easily remove the masking during projector setup and to place the masking back in place within seconds.

The first few drawings show the general projector setup for the segmented display. The next page shows where the masking is applied in the frame. The last set of pictures show the components of the masking and the way they work together.

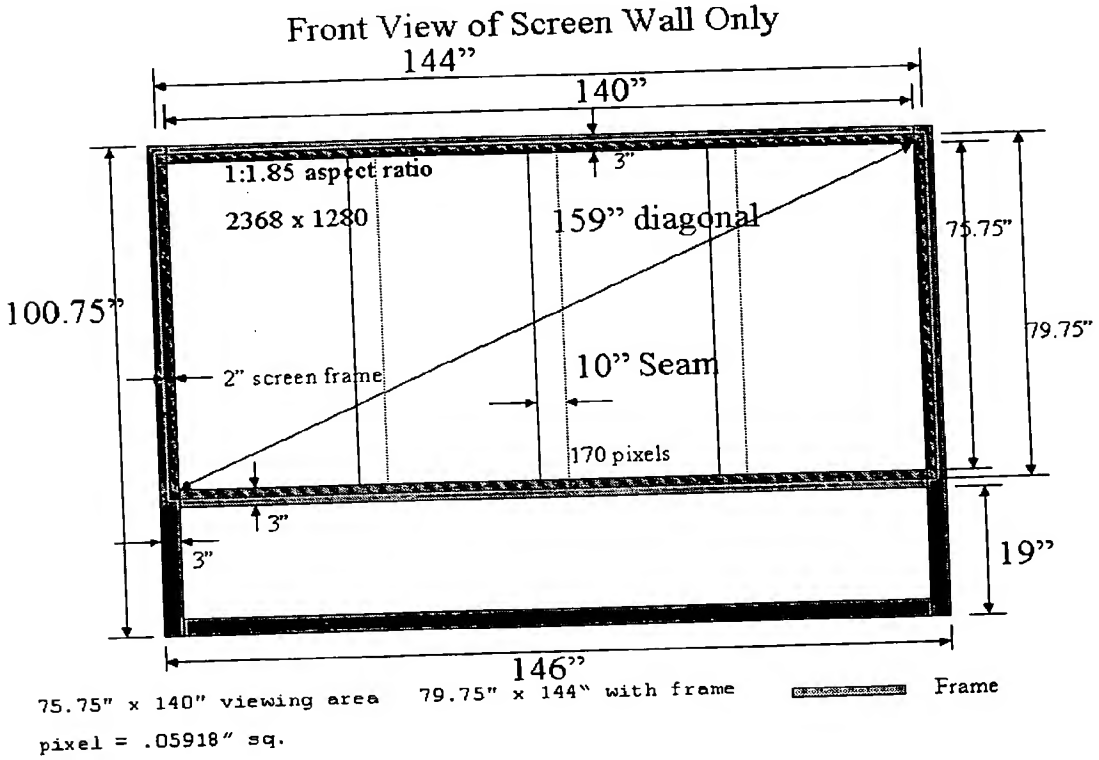


Figure 1

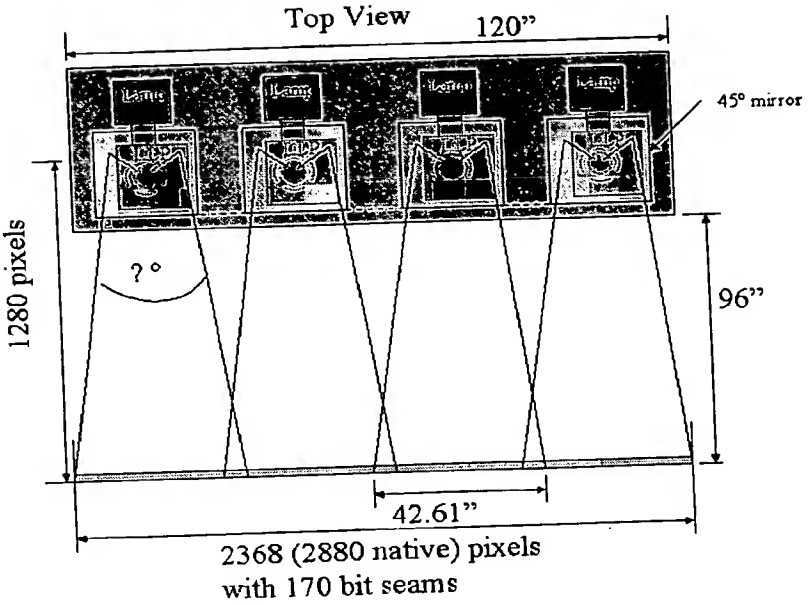
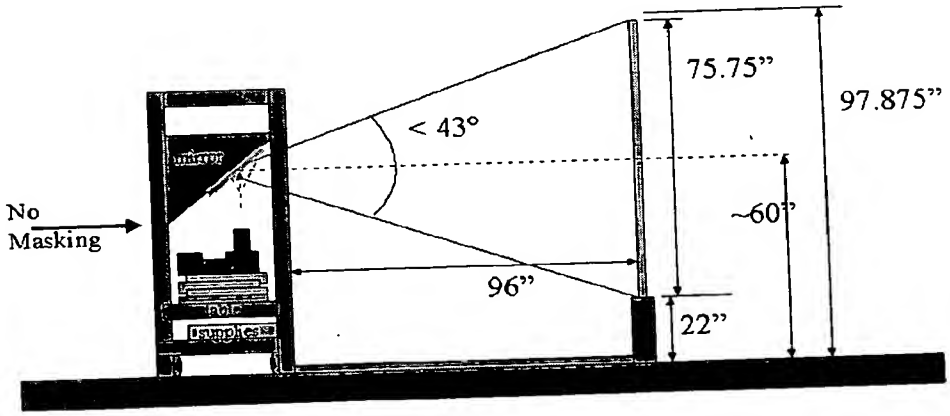


Figure 2

Side View



2496 (2880 native) pixels
with 128 bit seams

Figure 3

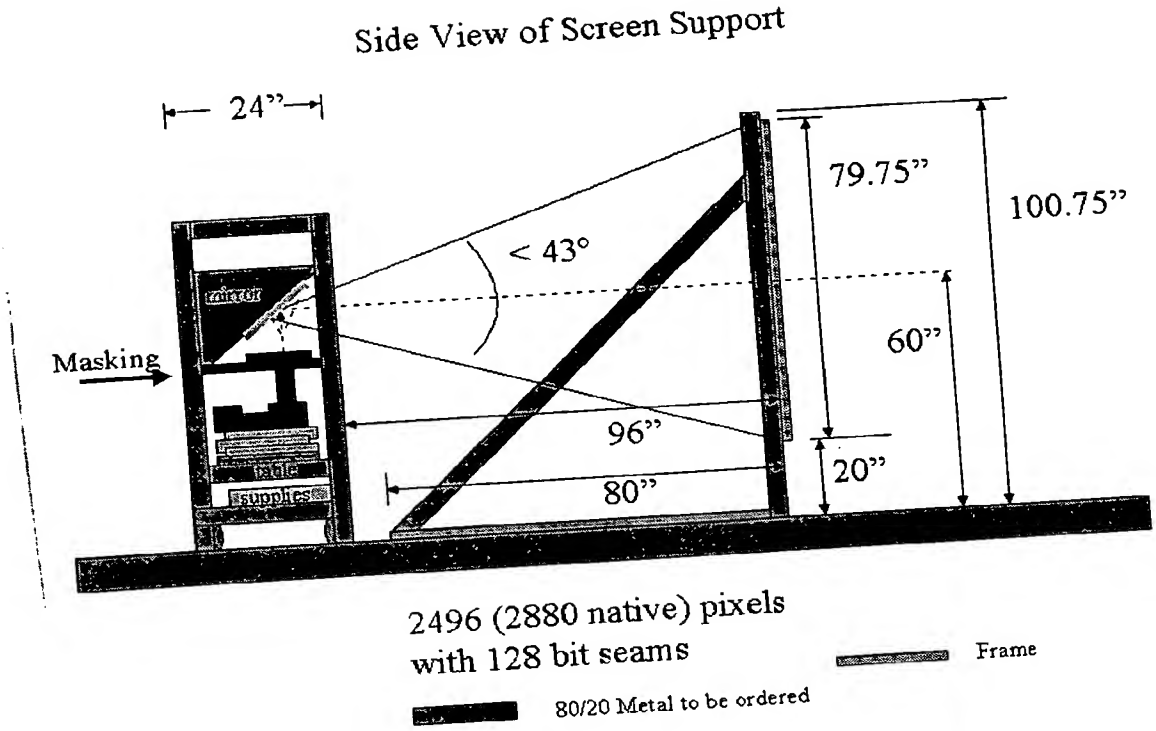


Figure 4

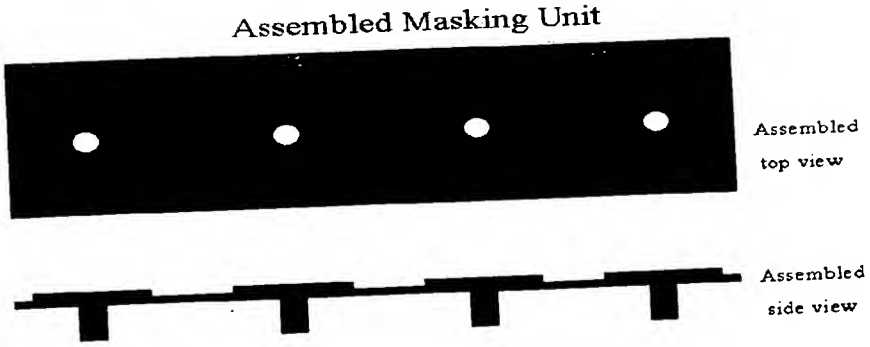


Figure 5

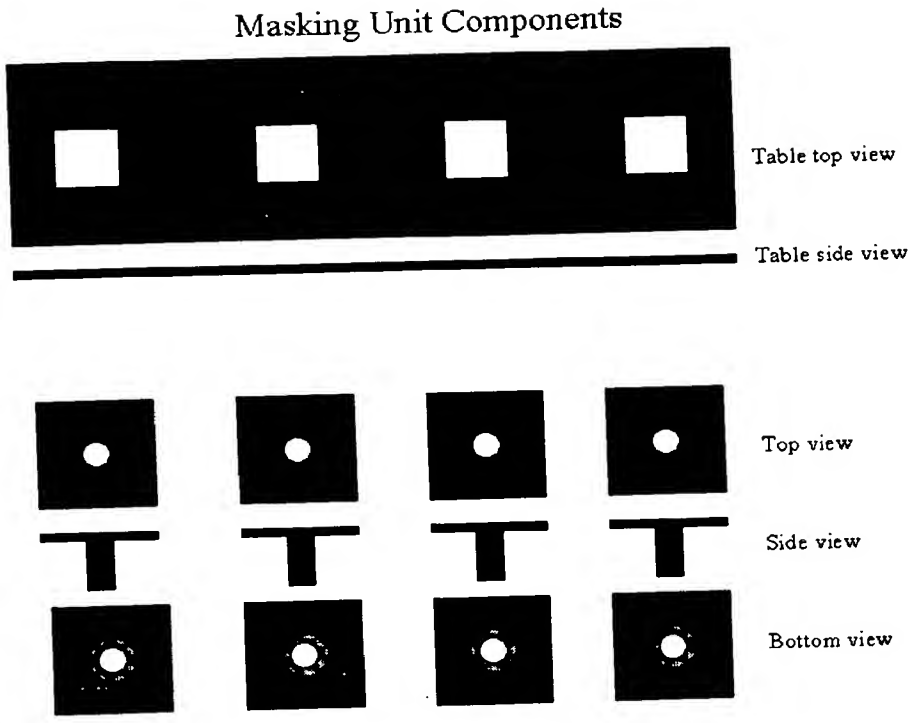

Masking Unit Components
Table top view
Table side view
Top view
Side view
Bottom view

Figure 6